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Where I'm Livin' and How I'm Feelin': Associations among community stress, gender, and mental-emotional health among Black Americans☆,☆☆

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ABSTRACT

Rationale: Structural racism is a primary avenue for the perpetuation of racial health disparities. For Black Americans, both historically and contemporarily, the neighborhood context serves as one of the most striking examples of structural racism, with stressful neighborhood contexts contributing to the well-documented inequalities in psychological functioning among this population.
Objective: Thus, in this study, we adapted an intersectional-ecological framework to investigate the links between community stress and multiple dimensions of mental-emotional health for Black men and women.
Methods: Drawing on cross-sectional data from 842 Black Americans from the Milwaukee area, we tested both objective (Area Deprivation Index; ADI) and subjective (perceived neighborhood disadvantage; PND) indicators of community stress as simultaneous predictors of negative and positive affect and the odds of psychological disorder (depression, anxiety) in multilevel models, examining gender differences in these linkages.
Results: Results showed greater *objective* community stress was related to lower levels of negative affect for both men and women and lower odds of psychological disorder for women specifically. Greater *subjective* community stress was related to higher levels of negative affect and lower levels of positive affect for both men and women and to higher odds of psychological disorder for women specifically.
Conclusions: Findings highlight the complex intersectional nature of the links between community stress and Black Americans' mental-emotional health. Specifically, findings demonstrate the pernicious psychological effects of perceived community stress and allude to Black Americans', particularly women's, active resistance and resilience to objective disadvantage, potentially through investing in social relationships in their neighborhoods.

1. Introduction

Structural racism represents the most important avenue through which racism impacts health (Williams et al., 2019), with scholars continuing to interrogate the ways structural forces bear on the health of individuals and communities to (re)produce health vulnerabilities. In this work, a specific focus on individuals racialized as Black is warranted due to the unique impacts of anti-Black racism throughout U.S. history (e.g., forced relocation/enslavement, Jim Crow). [Note: We use the term *racialized* to highlight the existence of race as a social construct—not a biological fact—based on numerous factors (e.g., ancestry, physical features, historical/political forces) where individuals are assigned racial categories and become racialized. Henceforth, we refer to individuals racialized as Black in the U.S. Black Americans.]

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One way structural racism manifests for Black Americans is via disproportionate chronic exposure to stressful environments, which can antagonize mental-emotional health (Williams and Collins, 2001). For example, distressed community contexts are related to elevated negative affect, stress, and depressive and anxiety symptoms (Gary et al., 2007; Jenkins et al., 2023). Moreover, oppressive systems (e.g., racism, sexism) are also interlocked and intertwined to create a matrix of domination that perpetuates inequities (Cho et al., 2013; Collins, 1990). Thus, the mental-emotional consequences of community stress can manifest differently for Black men and women, as they are multiply marginalized through various identities (e.g., race, gender), with emerging work demonstrating gender differences in linkages between neighborhood contexts and Black men's mental health relative to women's (Erving, 2022; Jenkins et al., 2023). Utilizing an intersectional-ecological framework, this study examines the links between community stress and multiple indices of Black Americans' mental-emotional health, investigating gender differences in these linkages.

1.1. Community stress as structural racism

The residential context is one of the most striking examples of structural racism for Black Americans, as no other racial group has experienced the same degree of residential segregation (Massey, 2017). Thus, Black Americans are more likely than other racial groups to live in distressed/disadvantaged environments, exposed to community stressors (e.g., violence, social disorder, physical disrepair; Massey, 2017; Williams and Collins, 2001).

According to Gee and Payne-Sturges's (2004) model of environmental health disparities, race and racial residential segregation influence one's residential location. Segregated locations pose disparate health risks due to the imbalance of resources that promote health and prevent diseases relative to the constraining environmental factors (e.g., pollution, structural characteristics) and psychosocial stressors (e.g., physical and/or social disorganization) that compromise health and well-being. The degree of this imbalance dictates the level of stress in communities, with community stress being an "ecological vulnerability that may translate into individual stressors" (p.1646; Gee and Payne-Sturges, 2004). From this perspective, community stress operates as a mechanism linking structural racism to Black Americans' health inequities. It becomes an individual-level stressor that can impinge on one's coping abilities, stress levels, and health, contributing to adverse outcomes, particularly in racially-segregated and/or disadvantaged areas. Consistent with this model and extant research on the topic (Couch and Coles, 2011; Fuemmeler et al., 2023), we conceptualize *community stress* as comprised of both objective environmental factors and subjective psychosocial stressors.

Empirical evidence supports that community stress has adverse psychological consequences for Black Americans (Hastings and Snowden, 2019; Simons et al., 2021). Both objective indicators (e.g., crime rates, poverty rates) and negative perceptions of one's neighborhood are related to compromised psychological functioning (Barile et al., 2017; James et al., 2017). Andrews et al.'s (2020) recent study showed that several objective neighborhood indicators (walkability, ease of biking/transit, personal crime) were not related to depressive symptoms for Black Americans, but one indicator— neighborhood property crimes— was associated with greater symptomology. They also found that overall positive perceptions of neighborhood quality were related to fewer depressive symptoms for Black Americans—an effect driven by both their perceptions of the physical environment and social cohesion—suggesting subjective indicators were more consistently associated with Black Americans' mental-emotional health (Andrews et al., 2020). Still, because objective and subjective measures were examined separately in their study, it is unclear how multiple neighborhood dimensions relate to mental-emotional health in light of each other. To build on this literature, we examine the *simultaneous* associations of objective and subjective measures of community stress with Black Americans' mental-emotional health, aiming to gain a more comprehensive understanding of these linkages. For this work, we utilized a within-group approach to further explicate the heterogeneity in Black Americans' vulnerability to harmful environmental factors *and* to help uncover instances of resilience among those more robust to these effects (Barile et al., 2017).

1.2. Intersectional considerations for community stress, race, and gender

Given that oppressive systems are interconnected and work in concert to maintain domination, it is necessary to utilize an intersectional perspective (Cho et al., 2013; Crenshaw, 1989) to understand how community stress is linked to mental-emotional health for Black Americans, attending to the way these associations may emerge distinctively at the nexus of racism and sexism for Black men and women. Accumulating research highlights the particular salience of environmental factors for Black men's health (Erving, 2022). Black men face cultural perceptions of criminal behavior and societal expectations around masculine ideals of fearlessness and toughness (Assari et al., 2015). This pressure could contribute to Black men underreporting some manifestations of psychological distress (Rosenfield, 2012; Rosenfield and Mouzon, 2013) as well as a heightened emotional sensitivity to their neighborhood environments, which represent a key domain for exposure to gangs, negative police interactions and profiling, and other hostile racialized community stressors.

At the same time, an intersectional approach argues for the consideration of the distinctive experiences of Black women, who have a qualitatively different relationship to marginalization (Cho et al., 2013). Some research points to the salience of neighborhood contexts for Black *women's* mental-emotional health (Wright et al., 2022), and scholars note how Black women have been disproportionately impacted by the historical pattern of separating Black individuals/families via incarceration, public housing policies, and evictions (Desmond, 2014). This may leave them more vulnerable to their environments and strengthen the links between community stress and psychological functioning. Still, Black women are subject to stereotypes of perpetual strength, resilience, and denial of psychological distress (Woods-Giscombé, 2010) that could make them feel obligated to resist showing the psychological impacts of community stress. Thus, in the current study, we investigated gender differences in the linkages between community stress and Black Americans' mental-emotional health.

1.3. Examining multiple dimensions of mental-emotional health

Finally, in this study, we examined the effects of community stress on multiple dimensions of mental-emotional health. Compared to other racial groups, Black adults are more likely to experience frequent symptoms of emotional and psychological distress, with rates of serious mental illness increasing over the last decade (CDC, 2019; Mental Health America, 2022). Yet paradoxically, Black Americans have similar or lower prevalence rates of most mental disorders compared to White Americans (Erving et al., 2019), suggesting that clinical assessment may be insufficient in fully capturing the psychological experiences of Black Americans. Thus, only estimating the psychological effects of community stress in terms of clinical outcomes privileges interpretations of mental health from a White, mainstream perspective that underestimates the detrimental impacts of structural racism on other dimensions of functioning, enacting further structural violence against Black Americans. Consideration of other dimensions of psychosocial functioning, such as negative and positive affect—which are less stigmatized and underlie multiple disorders—alongside traditional measures of psychopathology may yield a more holistic understanding of Black Americans' mental-emotional health and aid in redressing health disparities (Carter et al., 2021; Jenkins et al., 2023). Further, examination of both negative *and* positive affect allows avenues to subvert the

historical tendency to pathologize Black individuals by solely examining negative dimensions of health to explicate the ways community stress may be linked to positive aspects of functioning and flourishing (Jenkins et al., 2023).

1.4. Current study

In sum, consistent with Gee and Payne-Sturges's (2004) model of environmental health disparities, we aimed to investigate the role of both objective and subjective indicators of community stress in Black Americans' mental-emotional health, assessing the effect of these community stressors simultaneously and utilizing both affective and clinical measures of mental-emotional health. Moreover, we took an intersectional-ecological approach by investigating potential gender differences in these associations. Informed by prior findings, we hypothesized that relative to objective indicators, subjective indicators would be more consistently associated with compromised mental-emotional health and that these associations would be stronger for Black men than women.

2. Method

2.1. Data and participants

Data for the current investigation were from the longitudinal epidemiological study Midlife in the United States study (MIDUS; details on MIDUS recruitment and procedures have been disseminated elsewhere). Participants were initially recruited for MIDUS in 1995–1996 (originally ages 25–75; ~90% white) via random digit dialing and were contacted approximately every ten years to complete follow-up assessments (MIDUS 2: 2004–2006; MIDUS 3: 2013–2015). To increase the racial diversity of the sample, an oversample of African Americans from Milwaukee, Wisconsin was recruited during MIDUS 2, known as MIDUS 2 Milwaukee (N = 592; ages = 34–85; 94% Black). Follow-up assessment for the MIDUS Milwaukee sample was completed during MIDUS 3 (i.e., MIDUS 3 Milwaukee; N = 389, 75% response rate; ages = 44–94; 89% Black). Additionally, to replenish the original MIDUS sample, a unique sample of adults that matched the original MIDUS participants (ages 25–74; ~80% white) was recruited for the MIDUS Refresher (MIDUS R; 2011–2014) study. As part of the MIDUS R, an oversample of African Americans from Milwaukee, Wisconsin (MIDUS R Milwaukee) was also recruited (N = 508; ages = 25–64; 57% female; 91% Black).

2.2. Analytic sample and procedure

The current study utilized data from participants in the MIDUS 3 Milwaukee and MIDUS R Milwaukee samples to obtain the largest sample of Black participants in MIDUS and to align with the timeframe neighborhood data was available (i.e., 2015 and onward). While the original national MIDUS sample also includes Black participants, the current study focused solely on Black participants from Milwaukee to increase the homogeneity of the sample and examine in depth the effects of community stress on Black adults in a specific geographic location. This avoids ambiguity regarding the generalizability of the findings from the current study and enables us to speak to the specific experiences of Black adults in Milwaukee, which at the time of data collection was the most segregated city in the U.S. (Frey, 2022).

Recruitment of the Milwaukee samples used a stratified probability sampling design to recruit participants from census blocks that varied in median household income (e.g., areas with median household income above or below $40,000) and racial composition (e.g., areas with at least 40% of Black/African American residents) to capture the experiences of Black Americans from a variety of neighborhoods. During data collection, participants completed measures of psychosocial functioning and mental health collected via computer-assisted phone interviews and self-administered questionnaires. The University of Wisconsin-Madison Institutional Review Board approved study protocols and procedures, and all participants provided written informed consent before being assessed.

Of the total 897 participants in MIDUS 3 Milwaukee and MIDUS R Milwaukee, 32 participants did not have objective neighborhood data either because they did not have block-level Census data, or they were no longer living in the Milwaukee area at the time of data collection. Of the remaining participants (n = 865), those who did not identify as Black/African American were excluded, resulting in the current analytic sample of 842 participants. As shown in Table 1, 60% percent of the analytic sample were women (n = 503 women, n = 339 men). Participants ranged from 25 to 94 years of age, approximately half of the participants were working (53%), and a third of the participants (n = 275) reported being partnered (n married = 192). Among the partnered participants, 45% reported being in a relationship with a woman and the remaining 55% were in a relationship with a man. The median household income for the sample was $42,576.92.

2.3. Measures

2.3.1. Community stress

Community stress was assessed via objective and subjective measures. Objective community stress was based on the Area Deprivation Index, and subjective community stress was based on perceived neighborhood disadvantage.

Area Deprivation Index (ADI). We utilized the 2015 Wisconsin state-level Area Deprivation Index (Kind and Buckingham, 2018; University of Wisconsin School of Medicine and Public Health, 2015)—a publicly accessible index developed for health disparities research. ADI rankings are derived from that year's Neighborhood Atlas, which uses five-year estimates from the American Community Survey (for the current study, estimates were from 2011 to 2015) to score and order all census block groups in the state from low to high and then split these into ten equal sections (Kind and Buckingham, 2018; Tung et al., 2021). ADI rankings represent decile rankings (ranging from 1 to 10) of neighborhoods across the state, with 1 representing the least disadvantage and 10 representing the most disadvantage. Rankings are based on a cumulative assessment of 17 indicators related to education, employment, income, and housing quality (e.g., unemployment rate, percentage of families below the poverty line, median gross rent; household crowding; access to plumbing). Wisconsin ADI rankings were retrieved and matched to participant data for the current study via the MIDUS Administrative Core to maintain confidentiality.

Perceived Neighborhood Disadvantage (PND). To capture subjective aspects of community stress, we utilized the six-item, self-reported measure of perceived neighborhood quality (Jenkins et al., 2023; Keyes, 1998). Two items assessed neighborhood safety (e.g., "I feel safe being out alone in my neighborhood at night"), two items assessed neighborhood social cohesion (e.g., "I could call on a neighbor for help if I needed it"), and two items assessed physical environment (e.g., "Buildings and streets in my neighborhood are kept in very good repair"). Participants rated their agreement with items using response options ranging from 1 *(a lot)* to 4 (*not at all*). All items were averaged to create an overall measure of neighborhood disadvantage, with higher scores reflecting greater overall PND; similarly, higher scores reflected greater neighborhood unsafety, social dis-cohesion, and physical disorder for each PND subcomponent respectively. Cronbach's alpha was .74 for the overall measure of perceived neighborhood disadvantage.

2.3.2. Mental-emotional health

Mental-emotional health was assessed via three measures: negative affect, positive affect, and psychological disorder.

Negative and Positive Affect. To assess negative affect, participants rated how frequently in the past 30 days they felt 14 different negative emotions (e.g., "so sad nothing could cheer [them] up," "hopeless; " Fleming et al., 2020; Mroczek and Kolarz, 1998). For positive affect,

Table 1
Sample demographics for black participants from MIDUS Milwaukee Samples.

	Women (N = 503)			Men (N = 339)		
	Mean/%	*SD*	Range	Mean/%	*SD*	Range
Not Working	49.11		0, 1	43.66		0, 1
Partnered[a]	23.06		0, 1	46.90		0, 1
Refresher Sample[a]	55.86		0, 1	64.01		0, 1
Age[b]	51.54	14.48	25–94	48.73	13.31	25–93
Education[b c]	6.08	2.34	1–12	5.62	2.15	1–12
Total Household Income[a]	35,738.41	39,628.66	0–300,000.00	52,671.88	54,155.83	0-300,000.00
Years Living in Current Neighborhood	9.79	10.51	0–63.00	9.29	10.17	0–50.00
Area Deprivation Index	8.05	2.25	1–10	8.18	2.14	1–10
Perceived Neighborhood Disadvantage	2.04	0.65	1.00–4.00	2.00	0.63	1.00–4.00
Neighborhood Unsafety[b]	3.82	1.67	2.00–8.00	3.37	1.58	2.00–8.00
Neighborhood Social Dis-Cohesion	4.57	1.78	2.00–8.00	4.73	1.77	2.00–8.00
Neighborhood Physical Disorder	3.83	1.61	2.00–8.00	3.93	1.58	2.00–8.00
Negative Affect	1.89	0.78	1.00–5.00	1.90	0.80	1.00–5.00
Positive Affect	3.61	0.85	1.00–5.00	3.63	0.80	1.08–5.00
Psychological Disorder[d]	15.90		0, 1	12.09		0, 1

Note. N = 842 participants.
[a] Significant difference between men and women, with men reporting significantly higher scores or proportions.
[b] Significant difference between men and women, with women reporting significantly higher scores or proportions.
[c] The highest level of education participants completed, ranging from 1 = *completing no school or only some grade school (grades 1–6)* to 12 = *completing a terminal graduate degree (e.g., Ph.D., Ed.D., M.D.)*.
[d] Participants not reporting any psychological disorder = 0; participants reporting psychological disorder = 1.

participants rated how frequently in the past 30 days they felt 13 different positive emotions (e.g., "in good spirits," "calm and peaceful; " Mroczek and Kolarz, 1998). For both negative and positive affect, all items were rated from 1 (*none of the time*) to 5 (*all of the time*) and then averaged within each domain, with higher scores reflecting greater negative and positive affect. Cronbach's alpha was .93 and .95 for negative and positive affect, respectively.

Psychological Disorder. The Composite International Diagnostic Interview Short Form (CIDI-SF; Kessler et al., 1998) was used to create a dichotomous measure of psychological disorder (1 = *disorder*, 0 = *no disorder*) to capture participants characterized as having either depression or anxiety within the previous 12 months (i.e., they met the criteria for major depressive disorder or generalized anxiety disorder). Diagnostic criteria required that participants endorsed the necessary pre-conditions (depression: experienced depressed mood or anhedonia for at least most of the day and felt this way every day or almost every day for two weeks; anxiety: worried a lot more than most people, worried about more than one thing/different things at the same time, and felt this way most days every day or just about every day) and endorsed at least four depressive symptoms (e.g., "lost interest in most things," "lost your appetite or appetite increased") or three anxiety symptoms (e.g., "restless because of your worries," "had trouble falling asleep"). This measure, based on criteria from the Diagnostic and Statistical Manual (American Psychiatric Association, 2000), was created by the World Health Organization to assess mental disorders in the general population and is consistent with the assessment criteria used in clinician-administered interviews.

2.4. Missing data and covariates

Overall, there was relatively little missing data (less than 2%). Analyses revealed that age, education, partnered status, and residential tenure were related to missingness (older, less educated, single participants and those who lived in their neighborhoods longer were less likely to provide data; $ps \geq 0.002$). However, because these variables were included in the model, the data were treated as missing at random and met the assumptions of Maximum Likelihood approaches. Age (in years), highest education completed (*not completing any school or only some grade school* = 1, *completing a graduate degree* = 12), household income (log-transformed), unemployment (*currently working* = 0, *not working* = 1), years lived in neighborhood, relationship status (*unpartnered* = 0, *married/cohabiting* = 1), and sample origin (*MIDUS 3 Milwaukee* = 0, *MIDUS R Milwaukee* = 1) were included as covariates in all models. Participants self-identified their gender (a binary choice of man or woman); gender was (*women* = −1; *men* = 1) included in all models.

2.5. Data analysis

Data and materials used in the current study are publicly available here. This study was pre-registered on the Open Science Framework (analytic code available upon request). We examined means, standard deviations, and correlations among study variables for men and women. Among study participants, 209 unique census tracts from the Milwaukee area were represented. Of the census tracts represented in the data, 39% (n = 80) included more than one participant, with an average of 4.01 participants per tract (SD = 8.05; range: 1–62). As such, we constructed multilevel models, to account for the nested structure of the data (i.e., individuals nested within neighborhoods). Multivariate analyses were conducted in SAS OnDemand for Academics. All dependent variables were tested in separate models, with continuous outcomes (negative and positive affect) tested via PROC MIXED and our dichotomous outcome (psychological disorder) analyzed via PROC GENMOD (i.e., logistic modeling where outcomes represent the log odds of having psychological disorder). Maximum Likelihood was used as the estimation method, and standard variance components were specified for all models.

We ran two-level models to test community stress as a predictor of mental-emotional health and to test gender differences in these associations. Predictors were entered in a stepwise fashion, first independently examining the main effects of either predictor (ADI rankings or PND) and its interaction with gender (ADI rankings X gender or PND X gender, respectively) in separate models and then including all predictors and interaction terms in the same model. When models suggested a gender difference, we formally tested whether effects were significant for one gender but not the other using gender-stratified models to obtain separate estimates for women and men (note: results for gender-stratified models are presented in the Supplement). Variables were mean-centered before creating interaction terms to minimize multicollinearity. Significant interactions were probed post hoc and plotted separately for women and men.

As an exploratory analysis, the three subcomponents of PND (unsafety, social dis-cohesion, and physical disorder) were included as

predictors of mental-emotional health to better understand whether specific aspects of community stress and their interactions with gender help account for the resulting associations. Models were otherwise constructed identically to the ones described above, exchanging the composite measure of PND with the three subcomponents, with each subcomponent tested in separate models.

3. Results

Means, standard deviations, and correlations among study variables are presented in Table 2 (see Supplement for more about the distribution of ADI rankings in the sample). There was not a significant difference between women and men in terms of ADI rankings ($t(df = 840) = -0.85$, $p = 0.397$), PND ($t(840) = 0.79$, $p = 0.429$), negative affect ($t(839) = -0.16$, $p = 0.872$), positive affect ($t(839) = -0.45$, $p = 0.653$), or psychological disorder ($\chi^2(1) = 2.39$, $p = 0.122$). In general, correlations among most study variables were significant. For both women and men, ADI rankings and PND were positively correlated with each other ($ps < 0.001$). For both women and men, ADI rankings were not correlated with negative affect (women: $p = 0.934$; men: $p = 0.330$), positive affect (women: $p = 0.103$; men: $p = 0.410$), or psychological disorder (women: $p = 0.412$; men: $p = 0.373$). In contrast, for both women and men, PND was positively correlated with negative affect ($ps < 0.001$) and negatively correlated with positive affect ($ps < 0.001$), and, for women only, it was positively correlated with psychological disorder (women: $p < 0.001$; men: $p = 0.067$).

3.1. Associations between community stress and negative affect

The results from the multilevel models testing community stress and negative affect are presented in Table 3. When entered separately and accounting for covariates, results showed that ADI rankings were not significantly related to negative affect (Model 1: *Est.* $= -0.01$, $p = 0.408$) and this association did not differ by gender (*Est.* $= 0.01$, $p = 0.534$). PND was significantly, and positively associated with negative affect (Model 2: *Est.* $= 0.031$, $p < 0.001$), an effect that also did not vary by gender (*Est.* $= -0.02$, $p = 0.606$).

When both forms of community stress were entered simultaneously, results indicated a significant main effect of ADI rankings (Model 3: *Est.* $= -0.03$, $p = 0.013$), such that greater ADI rankings were negatively related to negative affect. There was also a significant main effect of PND, such that greater PND was positively related to negative affect (*Est.* $= 0.33$, $p < 0.001$). There were no significant interactions in the model ($ps > 0.568$). Taken together, these results suggest that, for both women and men, individuals living in areas with higher ADI rankings reported lower levels of negative affect on average and that individuals with greater endorsement of PND reported higher levels of negative affect on average.

3.2. Associations between community stress and positive affect

The results from the multilevel models testing community stress and positive affect are presented in Table 4. When entered separately and accounting for covariates, results did not show a significant main effect of ADI rankings on positive affect (Model 1: *Est.* $= 0.02$, $p = 0.290$), although the interaction for the gender difference in ADI rankings approached significance (*Est.* $= -0.02$, $p = 0.071$). There was a significant main effect of PND (Model 2: *Est.* $= -0.40$, $p < 0.001$), which was not qualified by gender (*Est.* $= 0.04$, $p = 0.330$).

When both forms of community stress were entered simultaneously, results indicated a significant main effect of ADI rankings, which trended towards varying by gender (Model 3: *Est.* $= -0.03$, $p = 0.053$). There was also a significant main effect of PND in this model (*Est.* $= -0.43$, $p < 0.001$), such that higher levels of PND were negatively related to positive affect, and this association did not vary by gender (*Est.* $= 0.06$, $p = 0.190$). Follow-up analyses using the gender-stratified approach confirmed that the main effect of ADI rankings was significant for women (*Est.* $= 0.07$, $p < 0.001$) but not men (*Est.* $= 0.02$, $p = 0.268$). As depicted in Fig. 1, ADI rankings were positively related to positive affect for women (*Est.* $= 0.07$, $p < 0.001$), whereas ADI rankings were not significantly associated with men's reports of positive affect (*Est.* $= 0.02$, $p = 0.452$). Additionally, follow-up analyses confirmed that the main effect of PND was significant for both women and men ($ps < 0.001$). Thus, these results suggest that women living in areas with higher ADI rankings reported higher levels of positive affect on average and that individuals, both men and women, with greater endorsement of PND reported lower levels of positive affect on average.

3.3. Associations between community stress and psychological disorder

The results from the multilevel models testing community stress and psychological disorder (binary outcome; results are odds ratio = *OR*) are presented in Table 5. When entered separately and accounting for covariates, results showed that ADI rankings were not significantly

Table 2
Means, standard deviations, and correlations among the measures of community stress, negative and positive affect, and psychological disorder for women and men.

Women							
Variable	1	2	3	4	5	6	7
1. Area Deprivation Index	–						
2. Perceived Neighborhood Disadvantage	0.20*	–					
3. Neighborhood Unsafety	0.17*	0.74*	–				
4. Neighborhood Social Dis-Cohesion	0.04	0.78*	0.32*	–			
5. Neighborhood Physical Disorder	0.25*	0.78*	0.38*	0.42*	–		
6. Negative Affect	0.00	0.32*	0.22*	0.26*	0.26*	–	
7. Positive Affect	0.07	−0.34*	−0.23*	−0.29*	−0.26*	−0.70*	–
8. Psychological Disorder[a]	−0.04	0.22*	0.16*	0.16*	0.19*	0.65*	−0.54*
Men							
1. Area Deprivation Index	–						
2. Perceived Neighborhood Disadvantage	0.25*	–					
3. Neighborhood Unsafety	0.25*	0.72*	–				
4. Neighborhood Social Dis-Cohesion	0.08	0.80*	0.34*	–			
5. Neighborhood Physical Disorder	0.26*	0.77*	0.33*	0.43*	–		
6. Negative Affect	0.05	0.30*	0.29*	0.23*	0.17*	–	
7. Positive Affect	−0.04	−0.31*	−0.29*	−0.25*	−0.16*	−0.66*	–
8. Psychological Disorder[a]	0.05	0.10	0.09	0.08	0.04	0.55*	−0.49*

Note. $N = 842$. *$p < 0.05$.
[a] *Participants not reporting any psychological disorder* = 0; *Participants reporting psychological disorder* = 1. Spearman correlations were used.

Table 3
Unstandardized Coefficients, Standard Errors, and p *Values for the Associations Among Community Stress, Gender, and Negative Affect.*

Parameter	Model 1			Model 2			Model 3		
	Est.	*SE*	*p*-value	*Est.*	*SE*	*p*-value	*Est.*	*SE*	*p*-value
Intercept	**3.45**	**0.29**	**< 0.001**	**2.94**	**0.28**	**< 0.001**	**3.02**	**0.28**	**< 0.001**
Gender[a]	0.00	0.03	0.952	0.00	0.03	0.990	0.00	0.03	0.907
ADI	−0.01	0.01	0.408				**−0.03**	**0.01**	**0.013**
ADI x Gender	0.01	0.01	0.534				0.01	0.01	0.568
PND				**0.31**	**0.04**	**< 0.001**	**0.33**	**0.04**	**< 0.001**
PND x Gender				−0.02	0.04	0.606	−0.02	0.04	0.571
Age	**−0.01**	**0.00**	**< 0.001**	**−0.01**	**0.00**	**0.001**	**−0.01**	**0.00**	**0.001**
Education	**−0.04**	**0.01**	**0.002**	**−0.03**	**0.01**	**0.011**	**−0.03**	**0.01**	**0.005**
Income	**−0.09**	**0.03**	**0.001**	**−0.06**	**0.03**	**0.014**	**−0.07**	**0.03**	**0.009**
Not Working	**0.32**	**0.06**	**< 0.001**	**0.32**	**0.06**	**< 0.001**	**0.32**	**0.06**	**< 0.001**
Neighborhood Residence Length	0.00	0.00	0.442	0.00	0.00	0.693	0.00	0.00	0.963
Partnered	0.01	0.06	0.850	0.01	0.06	0.891	0.00	0.06	0.973
Refresher Sample	0.06	0.07	0.381	0.12	0.07	0.077	0.09	0.07	0.172

Note. ADI = state Area Deprivation Index rankings and PND = Perceived Neighborhood Disadvantage. Significant associations are denoted in bold.
[a] -1 = women, 1 = men.

Table 4
Unstandardized Coefficients, Standard Errors, and p Values for the Associations Among Community Stress, Gender, and Positive Affect.

Parameter	Model 1			Model 2			Model 3		
	Est.	*SE*	*p*-value	*Est.*	*SE*	*p*-value	*Est.*	*SE*	*p*-value
Intercept	**3.25**	**0.32**	**< 0.001**	**3.92**	**0.31**	**< 0.001**	**3.82**	**0.31**	**< 0.001**
Gender[a]	0.02	0.03	0.452	0.02	0.03	0.513	0.02	0.03	0.568
ADI	0.02	0.01	0.290				**0.04**	**0.01**	**0.002**
ADI x Gender	−0.02	0.01	0.071				−0.03	0.01	0.053
PND				**−0.40**	**0.05**	**< 0.001**	**−0.43**	**0.05**	**< 0.001**
PND x Gender				0.04	0.04	0.330	0.06	0.05	0.190
Age	**0.01**	**0.00**	**0.007**	0.00	0.00	0.194	0.00	0.00	0.144
Education	**0.03**	**0.01**	**0.030**	0.02	0.01	0.156	0.02	0.01	0.076
Income	0.00	0.03	0.927	−0.03	0.03	0.215	−0.03	0.03	0.263
Not Working	**−0.31**	**0.07**	**< 0.001**	**−0.32**	**0.06**	**< 0.001**	**−0.31**	**0.06**	**< 0.001**
Neighborhood Residence Length	0.00	0.00	0.934	0.00	0.00	0.610	0.00	0.00	0.331
Partnered	−0.03	0.07	0.622	−0.03	0.06	0.642	−0.02	0.06	0.751
Refresher Sample	−0.06	0.08	0.400	**−0.14**	**0.07**	**0.048**	−0.11	0.07	0.145

Note. ADI = state Area Deprivation Index rankings and PND = Perceived Neighborhood Disadvantage. Significant associations are denoted in bold.
[a] -1 = women, 1 = men.

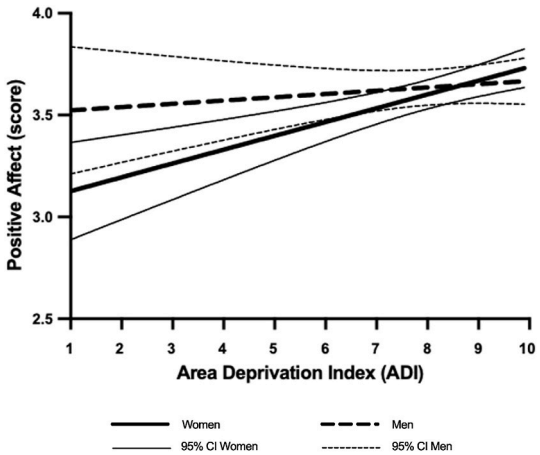

Fig. 1. Predicted level of positive affect and 95% confidence interval across levels of Area Deprivation Index (ADI) rankings for men and women.

related to the odds of psychological disorder (Model 1: $OR = 1.00$, $p = 0.989$) and this effect did not vary by gender ($OR = 1.08$, $p = 0.155$). There was a significant, positive main effect of PND (Model 2: $OR = 2.05$, $p < 0.001$), with the interaction between PND and gender approaching significance in this model ($OR = 0.74$, $p = 0.083$).

When accounting for both forms of stress, results indicated significant gender differences for both ADI rankings and PND (Model 3: $OR = 1.11$, $p < 0.001$; $OR = 0.68$, $p = 0.037$, respectively). As depicted in Fig. 2 panel A, ADI rankings were related to lower odds of psychological disorder for women (i.e., a 1-unit increase in ADI rankings was related to lower odds of having a psychological disorder on average; $OR = 0.86$, $p = 0.003$), whereas there was no such association for men ($OR = 1.06$, $p = 0.577$). Additionally, as depicted in Fig. 2 panel B, PND scores were significantly, positively related (i.e., higher odds) to psychological disorder for women, on average ($OR = 3.15$, $p < 0.001$), but there was no such association for men ($OR = 1.47$, $p = 0.236$). Follow-up analyses using the gender-stratified approach confirmed that the main effect of ADI rankings was significant for women ($OR = 0.86$, $p = 0.007$) but not men ($OR = 1.04$, $p = 0.727$); they also confirmed that the main effect of PND was significant for women ($OR = 3.19$, $p < 0.001$) but not men ($OR = 1.39$, $p = 0.350$). These results suggest that community stress was only related to the odds of psychological disorder among Black women, with those living in areas with higher ADI rankings having lower odds of experiencing psychological disorder on average and those with greater endorsement of PND experiencing higher odds of psychological disorder on average.

3.4. Exploratory analyses

To better understand how the specific aspects of neighborhood disadvantage (unsafety, social dis-cohesion, and physical disorder) were related to mental-emotional health, we conducted additional analyses using the three sub-components of PND; additional details and tables displaying these results are in the Supplement. We found that similar to

Table 5
Odd Ratio, Standard Errors, and p Values for the Associations Among Community Stress, Gender, and Psychological Disorder.

Parameter	Model 1			Model 2			Model 3		
	OR	*SE*	*p*-value	OR	SE	*p*-value	OR	*SE*	*p*-value
Gender[a]	**0.76**	**0.09**	**0.028**	0.82	0.11	0.129	0.83	0.10	0.135
ADI	1.00	0.06	0.989				0.95	0.06	0.463
ADI x Gender	1.08	0.06	0.155				**1.11**	**0.06**	**< 0.001**
PND				**2.05**	**0.37**	**< 0.001**	2.15	0.40	0.058
PND x Gender				0.74	0.13	0.083	**0.68**	**0.13**	**0.037**
Age	**0.96**	**0.01**	**< 0.001**	**0.97**	**0.01**	**0.002**	**0.97**	**0.01**	**0.001**
Education	**0.84**	**0.04**	**0.001**	**0.87**	**0.05**	**0.006**	**0.86**	**0.04**	**0.003**
Income	**1.18**	**0.09**	**0.033**	**1.27**	**0.10**	**0.002**	**1.28**	**0.10**	**0.001**
Not Working	**3.21**	**0.68**	**< 0.001**	**3.56**	**0.81**	**< 0.001**	**3.56**	**0.82**	**< 0.001**
Neighborhood Residence Length	1.00	0.01	0.907	1.00	0.01	0.906	1.00	0.01	0.674
Partnered	0.93	0.21	0.750	0.96	0.22	0.847	0.94	0.22	0.793
Refresher Sample	1.05	0.30	0.873	1.27	0.35	0.395	1.21	0.36	0.513

Note. *OR* = Odds Ratio, ADI = state Area Deprivation Index rankings, and PND = Perceived Neighborhood Disadvantage. Significant associations are denoted in bold.
[a] -1 = women, 1 = men.

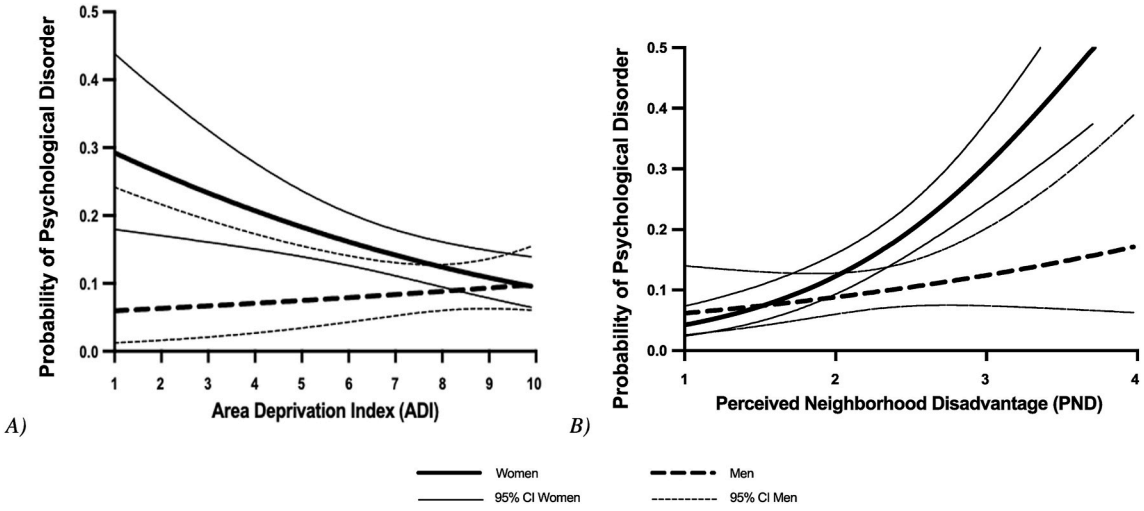

Fig. 2. Panel A) Probability of psychological disorder and 95% confidence interval across levels of Area Deprivation Index (ADI) rankings for men and women. Panel B) Probability of psychological disorder and 95% confidence interval across levels of perceived neighborhood disadvantage (PND) scores for men and women.

the primary results, all three PND subcomponents showed significant main effects with all three outcomes [i.e., greater levels of unsafety, social dis-cohesion, and physical disorder were each related to greater negative affect (*Est.* = 0.13, $p < 0.001$; *Est.* = 0.08, $p < 0.001$; *Est.* = 0.07, $p < 0.001$, respectively), lower positive affect (*Est.* = −0.14, $p < 0.001$; *Est.* = −0.12, $p < 0.001$; *Est.* = −0.11, $p < 0.001$, respectively), and higher odds of disorder (*OR* = 1.29, $p = .001$; *OR* = 1.17, $p = 0.014$; *OR* = 1.21, $p = 0.002$, respectively)]. Additionally, across all three outcomes, in models that included neighborhood social dis-cohesion, the main effect of ADI rankings was no longer significant (*ps* > 0.192; in the primary results and the other exploratory models with unsafety and physical disorder ADI scores remained significant).

Regarding gender differences, each outcome showed specific patterns. For negative affect, none of the PND sub-components showed significant interactions with gender (unsafety: *Est.* = 0.02, $p = 0.238$; dis-cohesion: *Est.* = −0.01, $p = 0.633$; disorder: *Est.* = −0.03, $p = 0.078$). For positive affect, models with neighborhood unsafety and neighborhood social dis-cohesion did not show any significant interactions with gender (unsafety: Est. = −0.01, $p = 0.457$; dis-cohesion: Est. = 0.02, $p = 0.234$); further, in the models with social dis-cohesion there was not a significant main effect of ADI rankings nor any interactions between ADI and gender (*ps* > 0.069). Only the model with physical disorder indicated significant gender differences, with gender differences found for both ADI rankings and physical disorder (ADI: *Est.* = −0.03, $p = 0.017$; disorder: *Est.* = 0.05, $p = 0.014$). Specifically, ADI rankings were associated with greater positive affect on average for women (*Est.* = 0.07, $p < 0.001$) but not men (*Est.* = 0.00, $p = 0.987$); similarly, physical disorder was associated with lower positive affect—an effect that was stronger for women (*Est.* = −0.15, $p < 0.001$) than men (*Est.* = −0.06, $p = 0.040$). For psychological disorder, models with neighborhood unsafety and neighborhood social dis-cohesion did not show any significant interactions with gender (unsafety: OR = 0.94, $p = 0.371$; dis-cohesion: OR = 0.92, $p = 0.220$); further, in these models, there was not a significant main effect of ADI rankings nor any interactions between ADI and gender (*ps* > 0.099). The model with physical disorder indicated a gender difference in both ADI rankings and physical disorder (ADI: OR = 1.12, $p = 0.049$; disorder: OR = 0.85, $p = 0.012$). Specifically, higher ADI rankings were associated with lower odds of psychological disorder only among women (OR = 0.86, $p = 0.006$) but not men (OR = 1.08, $p = 0.452$); similarly, greater physical disorder was associated with higher odds of psychological disorder only among women (OR = 1.43, $p < 0.001$) but not men (*b* = 1.03, $p = 0.783$).

4. Discussion

Guided by Gee and Payne-Sturges's (2004) model of environmental health disparities, this study investigated the associations between community stress (conceptualized as a mechanism of structural racism) and Black Americans' mental-emotional health, examining gender differences in these associations consistent with an intersectional

perspective. We found that objective and subjective neighborhood disadvantage predicted Black Americans' mental-emotional health, even after accounting for socioeconomic and demographic covariates. Greater community stress as indicated by objective measures (ADI rankings) was *positively* related to mental-emotional health, whereas greater community stress as indicated by subjective measures (PND) was *negatively* associated with mental-emotional health.

4.1. Objective community stress and Black women's mental-emotional functioning

Although we conceptualized community stress as an ecological vulnerability related to adverse functioning for Black Americans, results suggest that the links between objective indicators of community stress and mental-emotional health are nuanced. Across all three health outcomes, objective community stress demonstrated counter-intuitive linkages—higher ADI rankings (i.e., higher disadvantage) were related to lower negative affect, higher positive affect, and lower odds of psychological disorder. Moreover, the linkages between ADI rankings and these outcomes were driven more by Black women. Given the growing empirical literature pointing to Black men's psychological sensitivity to environmental stressors (Barber et al., 2016; Erving, 2022; Jenkins et al., 2023), these results contribute a valuable perspective to the expanding intersectional literature on the contextual effects of Black Americans' mental-emotional health, highlighting the importance of community stress for Black women.

4.1.1. Relevance for Black women

Our findings highlight the relevance of objective community stress for the mental-emotional health of the Black women in our Milwaukee sample. In Milwaukee, WI, Black women are disproportionately impacted by housing evictions and policies that leave them vulnerable to negative economic conditions; scholars draw parallels between evictions "locking *out* Black women" and mass incarceration "locking *up* Black men" (Desmond, 2014). Thus, the salience of objective neighborhood disadvantage for women relative to men in our sample may be an ecological adaptation. They may need to be attuned to constraining environmental factors like those related to housing quality and neighborhood deprivation (captured within the ADI), which may serve as markers of their susceptibility to displacement or residential instability. Further research is necessary to confirm if the current associations related to objective indicators of community stress and Black *women's* health are replicated in more geographically-diverse samples.

4.1.2. Counterintuitive associations

To our knowledge, this is the first study to examine ADI rankings and Black Americans' mental-emotional health, making our unexpected findings regarding the "bonadaptive" linkages between objective community stress and psychological functioning notable. Still, our results parallel a recent study of Black adults that found ADI-rated disadvantage was positively related to self-rated physical health (particularly for participants aged 48–66 years; Allan et al., 2022). However, we *do not* interpret these findings as neighborhood disadvantage being beneficial to Black Americans' health. One explanation for these counterintuitive associations can be found in the results of our exploratory analyses. That is, linkages between objective community stress and psychological functioning were non-significant in models adjusted for the perceived social factors in one's neighborhood, suggesting neighborhood social characteristics (factors not captured in the ADI) could account for these linkages (Barber et al., 2016). In distressed communities, Black adults, particularly women, may invest in and rely more heavily on local community social networks for support, leveraging these ties to maintain their mental well-being. As such, for those in the current sample, the ADI may capture more than just the level of objective disadvantage in their communities but also individuals' *resiliency to* such disadvantage, as these areas may precipitate greater social connectedness. Allan et al. (2022) similarly posited neighborhood collective efficacy as the compensatory mechanism linking neighborhood disadvantage to better physical health for Black Americans. Given the long history of Black women and their communities actively resisting the impacts of residential disadvantage (Williams, 2004), future work should utilize community-engaged approaches to investigate the ways communities cultivate resilience to structural racism to maintain mental/physical health, attending to their investment in social capital and collective efficacy as a primary strategy (Jenkins et al., 2023). Consistent with extant research (Erving and Cobb, 2021; Erving and Hills, 2019), establishing community mental health resources and/or social supports may aid in redressing inequities in Black mental health and promoting well-being.

Alternatively, these findings may speak more to the functioning of individuals living in advantaged areas who report poorer mental-emotional health; theseadvantaged areas may be less racially-diverse spaces, with individuals encountering more discrimination as a result. We did not have data on neighborhood racial composition to test this explanation, however, existing evidence supports the adverse effects of tokenism on Black Americans. Majority white spaces are emotionally detracting, particularly for middle-class adults frequently engaging with predominately-white environments (Hudson et al., 2020; Rodriguez et al., 2022; Wingfeld, 2010). Future research should investigate the joint and mediating effects of neighborhood racial composition and objective disadvantage on Black Americans' psychological functioning.

Still, given that there were no significant associations between ADI rankings and health outcomes in correlation analyses or multivariate models where the effects of ADI were tested separately from PND, it is also possible these findings are a statistical artifact. That is, although the direction of these effects was consistent across all the analyses conducted (i.e., ADI *positively* related to mental-emotional health), PND may be a suppressor variable enhancing the residualized effects of objective community stress by accounting for previously unexplained variance. Thus, these effects should still be interpreted with caution, and more research is needed to continue investigating the role of objective indicators in Black Americans' health.

4.2. Subjective community stress and mental-emotional health

We also found that subjective indicators of community stress were related to poorer mental-emotional health, such that perceived neighborhood disadvantage was adversely related to both negative and positive affect for both men and women and, for women specifically, odds of psychological disorder. Notably, these findings contrast with recently reported results showing longitudinal linkage between perceived neighborhood physical disadvantage and individuals' depressive symptoms were stronger among older African American men than women (Qin et al., 2023). Thus, the current results contribute to the extant literature supporting the detrimental effects of structural racism for Black Americans, highlighting how perceived psychosocial community stressors are related to compromised mental-emotional health via more negative *and* less positive functioning (and also point to the necessity of continuing work to understand these associations across gendered lines). In contrast to objective indicators, one reason for subjective indicators of community stress being consistently related to poorer psychological functioning may be due to the chronic nature of neighborhood stress and the relative importance of perceptions for the stress process. That is, negative neighborhood perceptions could reflect the prolonged process of individuals' daily experiences and exposures to continuous environmental stress wearing on their health. Further, these perceptions may be particularly maladaptive for mental-emotional health as perceptions directly inform both primary appraisals of stress and secondary appraisals of available individual and environmental resources for coping with stress—both of which are factors more proximal to individual health outcomes than initial stress exposure (Aneshensel et al., 2016; Pearlin, 2010).

Additionally, and similar to Andrews et al.'s (2020) findings that

multiple neighborhood aspects contribute to the connections between subjective neighborhood characteristics and Black Americans' psychological health, exploratory results suggested that all three subcomponents of disadvantage contributed to the negative associations between subjective community stress and mental-emotional health. That is, neighborhood unsafety, social dis-cohesion, and physical disorder were each related to poorer health across all three outcomes. Notably, these exploratory analyses also revealed potential gender differences regarding neighborhood physical environment, with greater perceived physical disorder related to less positive affect and higher odds of disorder for women specifically. Thus, additional research is necessary to investigate which aspects of perceived neighborhood disadvantage are related to mental-emotional health similarly for Black men and women or whether Black women may be more sensitized to the effect of perceived physical disorder.

4.3. Gender and various dimensions of mental-emotional health

Given existing health inequalities and paradoxes regarding Black Americans' mental-emotional health, we examined three dimensions of functioning – negative and positive measures of emotional health and the occurrence of clinical psychological disorder – to explicate their linkages to community stress. We found a unique pattern of results regarding each outcome, highlighting the utility of this approach to gain a more holistic understanding of Black Americans' psychological experiences. For instance, in light of the current findings that community stress was only related to psychological disorder for Black women, relying solely on this measure of clinical functioning would have obscured the ways community stress is a mechanism of structural racism antagonizing the health of Black men as well. Indeed, we found that, although objective aspects of community stress were primarily relevant for Black women's clinical outcomes, subjective aspects of community stress were salient for both women and men, consistently and adversely related to their affective functioning. The reason for this gendered distinction in clinical outcomes but not affective outcomes is unclear, particularly since previous research supports that 1) disturbances in affect are common to depression and anxiety disorders and other psychopathologies (e.g., Carter et al., 2021) and 2) Black women are more inclined than men towards experiencing both negative affectivity and depressive disorder (Jonas and Lando, 2000; Williams et al., 2007). As such, this study underscores the distinctive psychological experiences of Black Americans that exist at the intersections of race and gender, while also highlighting the notable similarities for Black women and men in the processes linking manifestations of structural racism to compromised health. Additional work should continue to elucidate the mental-emotional experiences of Black Americans across multiple dimensions of functioning, examining these associations separately for men and women yet also attending to the similarities across gender that might exist for non-clinical outcomes. These efforts may yield avenues for optimizing health by not just remediating distress and disorder but enhancing well-being and flourishing.

4.4. Limitations

The current investigation has several methodological strengths, including the use of a large, racially homogenous sample of Black Americans, the examination of both objective and subjective indicators of neighborhood disadvantage within an intersectional perspective, consideration of negative and positive dimensions of mental-emotional health, and employment of a multilevel design to account for the geographic concentration of neighborhood disadvantage among participants while controlling for key individual socioeconomic and demographic characteristics. At the same time, there are limitations. The cross-sectional nature of the study limits the ability to determine temporal precedence or causality. As such, although the theoretical frameworks guiding this work posit the directionality of effects from community stress to individual outcomes, explanations of individuals of with poorer health and functioning selecting into (or out of) specific neighborhoods cannot be disqualified. Indeed, Gee and Payne-Sturges's (2004) model for environmental health disparities views the process of community stress as reciprocal rather than linear, such that community stress contributes to health disparities, and in turn, health disparities affect the community and lead back to heightened community stress. Future longitudinal research investigating these constructs will yield additional clarity and confidence regarding the directions of these effects, particularly our counterintuitive findings concerning the links between the ADI and Black women's mental-emotional health. Additionally, because this investigation focused on Black Americans from Milwaukee, WI who self-identified as either men or women, these results may not generalize to the entire Black American population. Future studies that include individuals who identify with minoritized genders (e.g., trans men and women, non-binary individuals) and samples that are more geographically and ethnically diverse (e.g., Afro-Caribbeans, African immigrants) will further illuminate the unique ways oppressive forces may impact those who are multiply marginalized.

5. Conclusion

In this study, we conceptualized community stress as a mechanism linking structural racism to health inequities for Black Americans, examining how multiple indicators of community stress were associated with various dimensions of mental-emotional health for Black men and women. Findings suggest that objective and subjective indicators of community stress were associated with negative and positive affect and psychological disorder in distinctive ways. Future research that investigates the linkages between environmental stressors and numerous dimensions of health will not only reveal the myriad ways Black communities demonstrate resiliency to structural disadvantage but also yield opportunities for intervention to mitigate the racist circumstances, processes, and contexts that have historically forced Black individuals and communities to need to exhibit such resilience. Moreover, social justice-focused efforts targeting both objective manifestations of neighborhood disadvantage and perceptions of community distress will progress attempts to remediate health disparities and promote health equity.

CRediT authorship contribution statement

August I.C. Jenkins: Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Agus Surachman:** Writing – review & editing, Writing – original draft, Visualization, Investigation, Data curation. **Marina Armendariz:** Writing – review & editing, Writing – original draft, Data curation, Conceptualization.

Data availability

The data are publically available and the code to these data are listed in the document.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.socscimed.2024.116763.

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